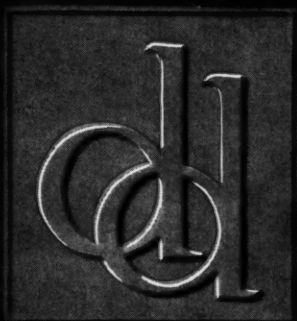


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# Direct Pattern Technique on a Flawless Model

MORRIS EIGEN, D.D.S., West Orange, New Jersey

THE TECHNIQUE PRESENTED here offers (1) direct pattern technique with indirect advantages; (2) absolute straight line withdrawal of wax pattern; (3) clinical expansion, especially in complicated restorations, without resort to water bath, thermostatically controlled furnace, or control powder; (4) freedom from gold bubbles; and (5) perfect margins.

The technique, in brief, is to take a colloid impression of the wax bulk in situ; pour up in cristobalite; contour; invest, and cast.

## Technique in Detail

It is presumed that the walls of the preparation are parallel and that there is sufficient extension for prevention.

1. The field of operation may be kept dry with cotton rolls and a saliva ejector. The prepared tooth, then, is washed with tepid water and all debris incidental to preparation is removed.

2. A cone of hard wax is softened over a flame, and with the apex directed to the deepest part of the preparation, the wax is gently but firmly pressed to place. Pressure is maintained until the wax has hardened, and the molecules have become locked in their new relationship.<sup>1</sup>

3. This wax bulk is then removed. The word "bulk" is used because the only anatomic carving attempted is the removal of proximal undercuts and gingival overhang from the tooth. Any device is applicable that will produce the desired undistorted withdrawal of the wax bulk. I find metal staples satisfactory.

4. The procedure is to flatten the staple and to apply a bead of sticky wax over the central area. As soon as the flat staple is attached to the occlusal or lingual surface (anterior

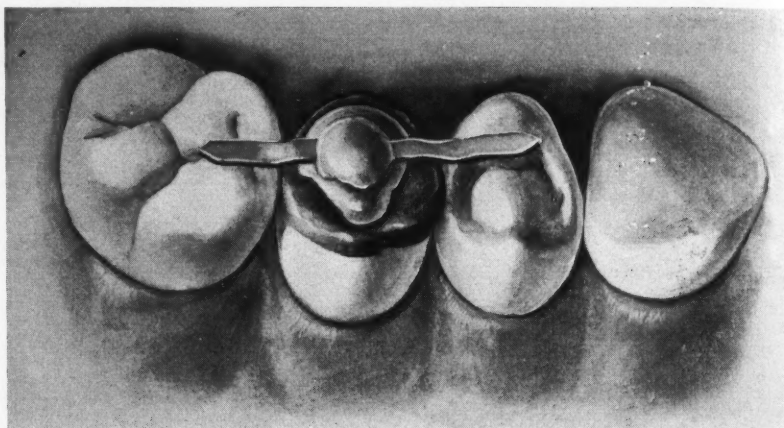


Fig. 1—Staple attached to wax bulk; wax undercuts were removed gingivally and proximally.

patterns), the waxed staple is carefully passed through a flame and quickly dropped over the appropriate surface. If there is any doubt as to the strength of attachment, additional amounts of sticky wax are subsequently added. The two ends of the staple will extrude over the body of wax bulk, on the linguo-buccal or mesio-distal aspects.

5. For impression purposes, a previously perforated crown and bridge tray may be used. A sufficient amount of preheated colloid is applied to the tray and brought to place in the mouth. This is done as soon as the colloid has lost most of its heat, but while it is still impressionable. This is important, because if the colloid retains too much heat, it may soften

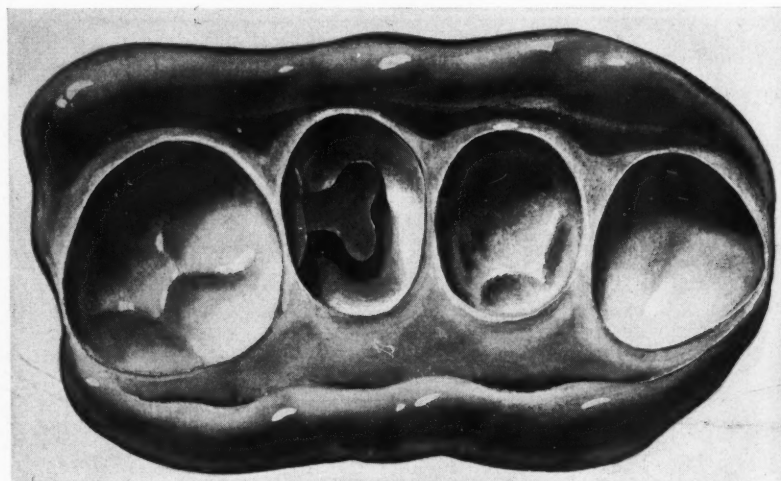


Fig. 2—Colloid impression removed showing wax bulk (pattern) embedded.

<sup>1</sup>McGehee, W. H. D.: Text-Book of Operative Dentistry, Philadelphia, P. Blakiston's Son & Co., Second Edition, 1936.



or melt the wax, thus releasing tension and causing distortion.

6. The vehicle carrying the putty-like colloid is held in place, chilled again, and carefully removed in a straight occlusal or incisal direction.

7. The extruded ends of the staple will become securely engaged in the colloid, and on removal will permit a withdrawal force to act simultaneously at two points, thus insuring an accurate, undistorted removal of the wax bulk.

8. No attempt has been made to carve the pattern in the mouth, except for the removal of any proximal undercuts and gingival overhang. The wax, when softened and inserted into the preparation, is pressed down in "button" fashion; consequently, in addition to immobility provided by the engagement of the extruded ends of the staple, this "button" excess of wax also helps to insure accurate withdrawal by becoming locked in the colloid impression.

To recapitulate, the wax bulk is in place on the prepared tooth, and the metal staple has been securely fixed to it with sticky wax. The vehicle has received a sufficient amount of putty consistency, preheated colloid, and has been brought to place in the mouth and properly chilled. The impression is now carefully removed in a straight occlusal or incisal direction. The undistorted wax (impression) will be seen embedded in the colloid impression.

9. With a small sable or camel's hair brush and a solution of hydrogen dioxide and liquid green soap, the saliva and any blood present are removed from the wax and colloid surfaces. Room temperature water is then allowed to flow gently over the impression to leave it clean.

10. The colloid impression, with wax bulk still embedded, is now prepared to receive a thick creamy mix of cristobalite inlay investment, mechanically spatulated to produce a homogeneous mix, a strong model, and the maximum setting expansion. The proportions are 30 parts investment to 100 parts water by weight.

11. A moistened, pointed, sable or camel's hair brush is dipped into the creamy mix and the colloid impression carefully painted. The investment is blown around and out several

times in order to prevent trapping of surface air or water.

12. Investment is now vibrated into the impression, and allowed to set about twenty-two minutes.

13. Having set, the cristobalite model is easily recovered from the colloid impression and all excess wax carefully removed with a warm instrument.

14. The pattern is now indirectly contoured on this model.

I prefer to determine the occlusal contour from the remaining tooth structure. When very little tooth structure remains, however, to act as a guide, the patient may register the path of the opposing tooth (step 2) by biting into the bulk wax before any overhang or undercut is removed. To prevent internal wax distortion the surface of the wax bulk is first softened with a heated instrument.

15. When the contouring and smoothing have been completed, this entire model-pattern is invested in the orthodox ring; the wax is eliminated, and the gold is cast.

#### Advantages

1. The technique is especially applicable to two, three, and four surface restorations. Clinically perfect castings were repeatedly made on an M. O. D. with finger extension into the buccal groove and a capped cusp. The technique does away with the necessity for water bath, thermostatically controlled furnaces, and control powder.

2. I believe that the technique has a wax expansion merit. When the in-

vestment is poured or vibrated into the colloid impression with the wax embedded, the setting expansion is not counteracted by investment external to the pattern. The investment occupies the internal portion of the wax pattern. Consequently, when the mix sets, its setting expansion is entirely confined to expanding the wax pattern. In the orthodox manner, the creamy mix of investment flows both internally and externally to the pattern. With an expansion force acting on both sides, it does not appear that the wax pattern is itself effectively expanded.

3. This technique offers the accuracy of the direct technique, and in addition, all the indirect model advantages. Although many operators prefer to make patterns directly in the mouth in order to produce a more accurate pattern by avoiding the discrepancies that creep in with the introduction of models, esthetics and marginal outline can always be better achieved on an accurate model. Because the wax pattern that comes directly from the preparation provides the model in this technique, discrepancies cannot creep in; there are no intermediates. It is easier to produce an accurate wax pattern on an accurate model than in the confined space of the mouth.

4. This technique affords an accuracy of pattern withdrawal which, I believe, has never been achieved with any other technique. There is absolutely no pattern distortion because a flat metal staple permits a withdrawal force to act simultaneously

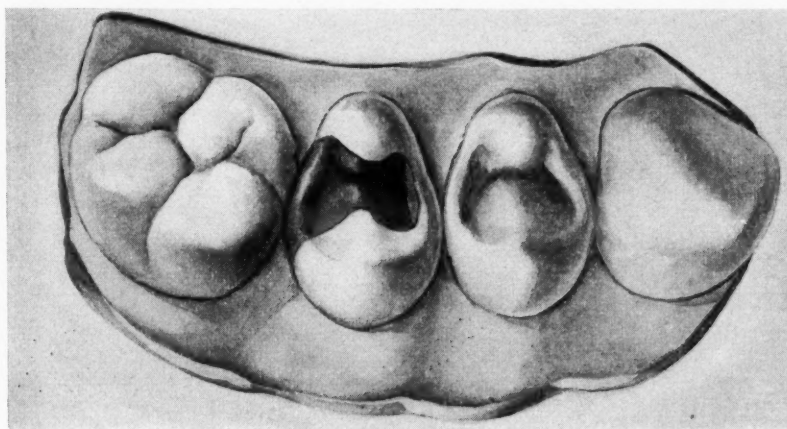


Fig. 3—Model recovered.

at two points. Other techniques provide an explorer or attached sprue for pattern removal, which invariably exerts a tilting action, thus recovering a distorted pattern and providing for a distorted and misfit casting.

5. One interesting feature of this technique is the freedom from gold bubbles. It will be recalled that the wax is securely locked in the impression by the "button" excess and extruded ends of the attached staple. The internal surface of the pattern is the only part exposed; consequently, investment can be vibrated into the impression without fear of disturbing the pattern and with the assurance of a smooth internal surface. Investment particles being heavier, air or water bubbles cannot cling to the internal surface. When air or water bubbles permit the formation of gold bubbles, in the usual procedures, an attempt to remove, if not fraught with danger, often results in a loose fit on the preparation and thus destroys the retention of the restoration.

6. With the pattern secured so effectively in the colloid impression, the densest layer of investment can be vibrated into position against the internal surface of the pattern. A dense layer of investment at this vul-

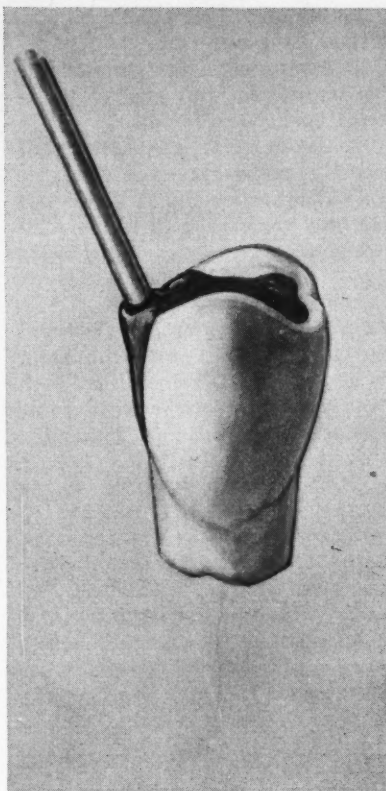


Fig. 4—Wax pattern model sprued and set on crucible former.

nerable area provides smoothness in casting and somewhat inhibits gold shrinkage.<sup>2</sup>

7. The most vital part of any restoration may be looked on as the relationship of the gold to the cavo-surface line angle of the preparation. Following this technique, when dressing up the model for investing, a slight, thin excess of wax can extend from the marginal outline of the pattern onto the investment model. This excess fringe, after the model is invested, the wax eliminated, and the gold cast, can be subsequently finished in the mouth, in order better to seal the peripheral approximation to the tooth.

8. The wax pattern is safely protected from thermal and physical distortion in the model stage. The value of that protection is self-evident.

9. With this technique, time consumed at the operating chair is reduced to a new minimum. Wax may be softened and inserted; undercuts removed; staples applied, and an impression taken in about three minutes. The complexity of the preparation adds little to the time and energy consumed.

<sup>2</sup>Meyer, F. S.; *Cast Gold Inlays*, J. A. D. A. 16:817 (May) 1929.

584 Valley Road.

# Silver Castings for Preservation of Mesio-Distal Relationship of Deciduous Arch

DOUGLASS W. DYER, B.S., D.D.S., Los Angeles

CHILDREN FROM 12 to 15 years of age often exhibit one of the three classes of malocclusion in all its irregularities. Many of these deformities have their origin in the premature loss of the deciduous teeth, the prolonged retention of these first teeth, or failure to restore properly the mesio-distal dimensions of the individual tooth on restoration. Any one of these conditions allows a rapid collapse of the deciduous dental arch, a subsequent lack of stimulation for proper growth, and a resultant malposition of the first permanent molars. As early, then, as the sixth year of the child's life there may be well established an orthodontic case which might have been simply and easily prevented.

When mention is made of the use of inlays, either gold or silver, in the restoration of deciduous teeth, most practitioners object that their child patients cannot sit that long; or that they cannot justify a proper fee for such services; or that that type of dentistry is best left to the specialists in dentistry for children.

Inasmuch as the deciduous teeth most susceptible to decay are the first and second molars, these teeth should receive active care for approximately nine years, not only in mastication but in an equally important function, that of maintaining growth and as guides for the succedaneous teeth. I can see no excuse for failing to restore these deciduous teeth as "permanently" as we do in adult mouths (Figs. 1 through 8).

## Consideration of Objections

**Fees**—A proper fee can be justified for inlays for this reason: By proper restoration of the complete mesio-distal width of the extremely decayed tooth, it is possible that costly orthodontic treatment later may be prevented.

**Time**—By using a simplified technique, the time spent is little more



Fig. 1, Top—Case 1: A boy, aged 8½ years. Note premature loss of upper left deciduous first molar; loss of anterior-posterior (mesio-distal) space; anterior position of key tooth (upper first molar) and resultant crowding of permanent cuspids, and first and second bicusps. Fig. 2, Bottom—Case 1: Note partial destruction of deciduous first molar on right side with less loss of posterior space than on left side.



Figs. 3 and 4—Case 1: Case carved in soap from actual dimensions of casts (left side).

Fig. 5—Case 2: A girl, aged 7 years. Similar condition on left side, as shown in Figs. 1 through 4. Condition was due to destruction of teeth and collapse of arch.

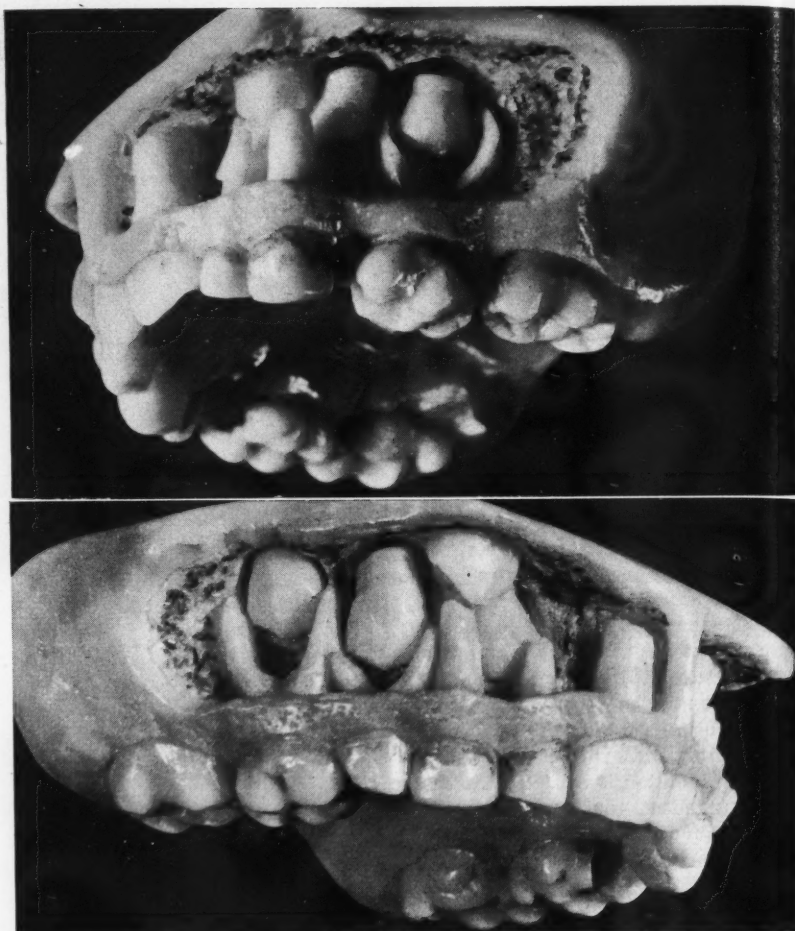
than that spent in preparing a tooth to receive a plastic restoration with the necessary resistance and retention and the subsequent polishing. The actual cavity preparation, as will be seen, is almost entirely accomplished through the use of discs and stones which are faster. Assurance is had of absolute withdrawal of pattern and of good margins to which to finish. The time required is much less than that when burs are employed in proper preparation of a cavity for a plastic restoration. The direct-indirect technique with some modifications is employed in this pattern-taking. This also requires less time than that needed to maintain dryness of cavity, plastic mixing, packing, hardening, and carving. The actual chair time, from preparation to finishing and cementing of the inlay should be less than that for a well finished plastic operation, with little added laboratory time for the inlay.

**Materials**—A silver with 14 per cent palladium has been alloyed which exhibits all the practical specifications as to casting and finishing as is obtained from 22 K. casting gold. This metal as produced, is slightly harder than 22 K. inlay gold. Its casting detail is perfect, but melts at a higher temperature and should, I believe, be cast with centrifugal force.

For large cavities in which the angles have become involved, none of the plastics has proved satisfactory. Plastic restorations break soon after they are placed, and to prevent this, it is often necessary to resort to under-contouring the proximal, thus loosening the tooth's contact mesio-distal width of the tooth. Undercarving the occlusal is often done also, thus loosening occlusion, and often undercutting good tooth structure to increase retention.

#### Inlay Technique

1. It is, of course, necessary to remove all caries from the tooth or approximating teeth. Root canal ther-



Figs. 3 (top) and 4



Fig. 5

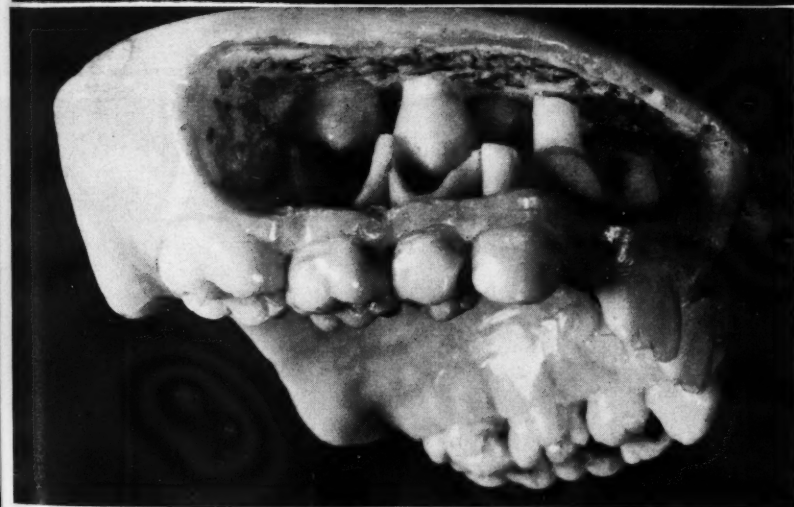
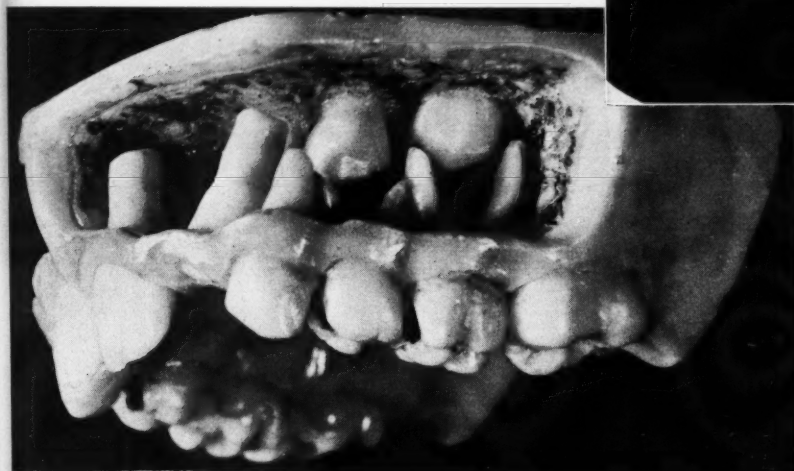
Fig. 6—Case 2: Similar condition, less pronounced. ■

Fig. 7—Case 2: Soap carving, made from roentgenograms to dimension of left side. Note pemanent buds and crowding.

Fig. 8—Case 2: Right side.



Fig. 6



Figs. 7 (top) and 8

apy is instituted if the pulp is exposed, and cement bases, if needed, are placed almost to contour of the tooth or teeth.

2. A slice cut is made with a Joe Dandy disc on the proximal or proximals, with cuts converging occlusally.

3. Cut a wide but not deep (pulpally) occlusal cut, with dovetail or joining mesial and distal cuts, as the case demands. Added retention may be obtained by using a knife-edge stone to make a long but shallow cut in buccal and lingual grooves to join the occlusal cut (Fig. 9).

4. On proximal cuts, obtain lateral retention by a simple cut of a fissure bar, parallel with slice cuts.

5. Inlay wax is heated and confined buccally and lingually, then forced thoroughly to place. Chill throughout. Carefully puddle the occlusal surface with a spatula and have the patient close in occlusion. Chill and remove (Figs. 10 and 11).

6. Pour the cavity side of the wax impression in a stiff mix of expanding inlay investment and allow to set (Fig. 12).



Fig. 9

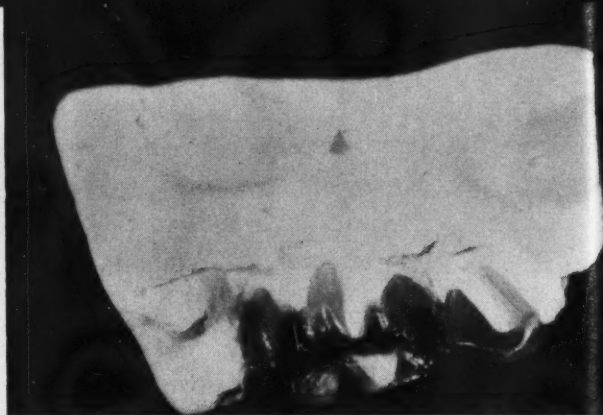
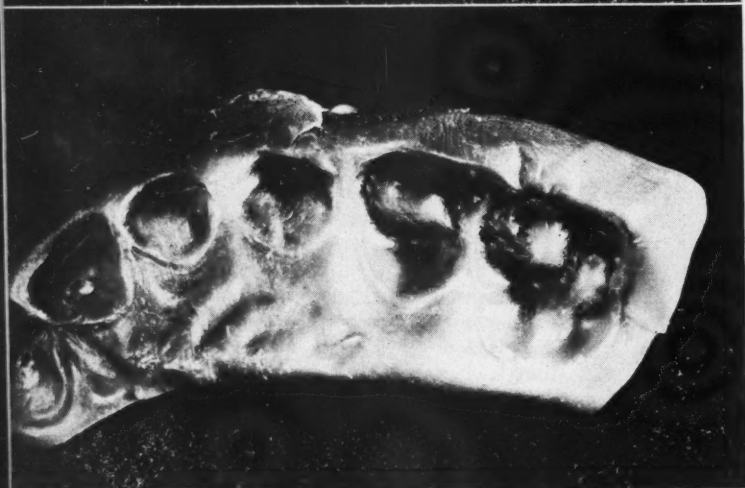


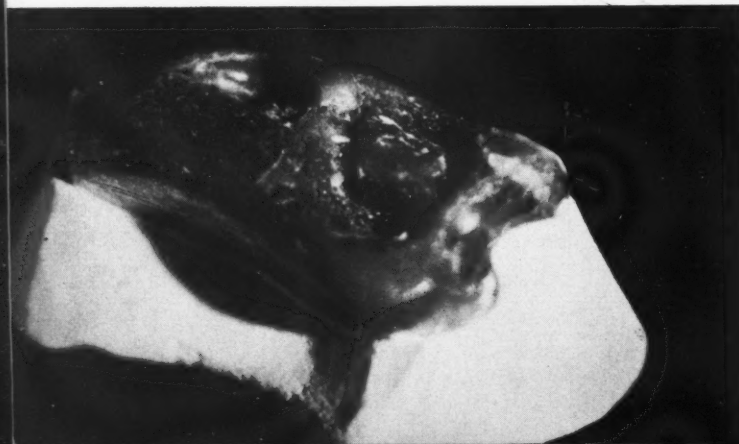
Fig. 13

(Please See Legends On Opposite Page)



Figs. 10 (second from top) and 11

Fig. 12



Figs. 14 and 15

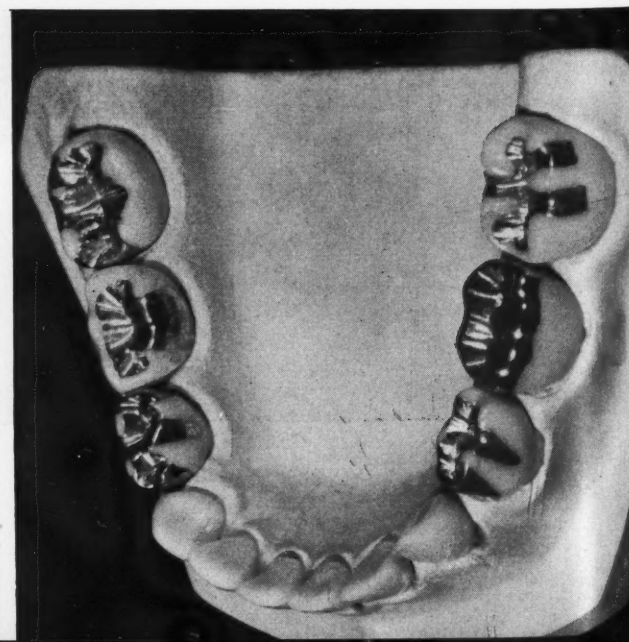
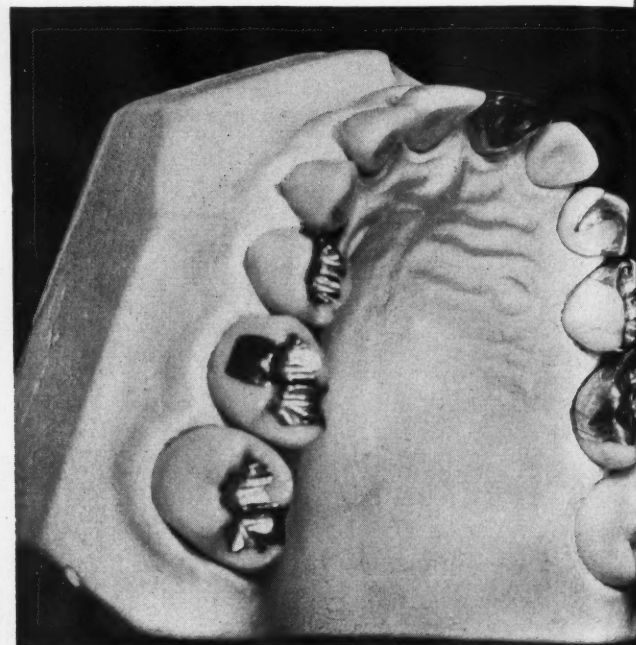




Fig. 9—Approximating teeth prepared as described in text.

Figs. 10 and 11—Cavity surfaces.

Fig. 12—Cavity side of wax impression poured in stiff mix of expanding inlay investment.

Fig. 13—Inlays carved to margins.

Figs. 14 and 15—Types of restorations encountered in the mouth, adequately replacing lost tooth structure by use of silver inlays, which could not have been accomplished by any of the known plastics.

Fig. 16—Example of vast destruction so often encountered in deciduous teeth.

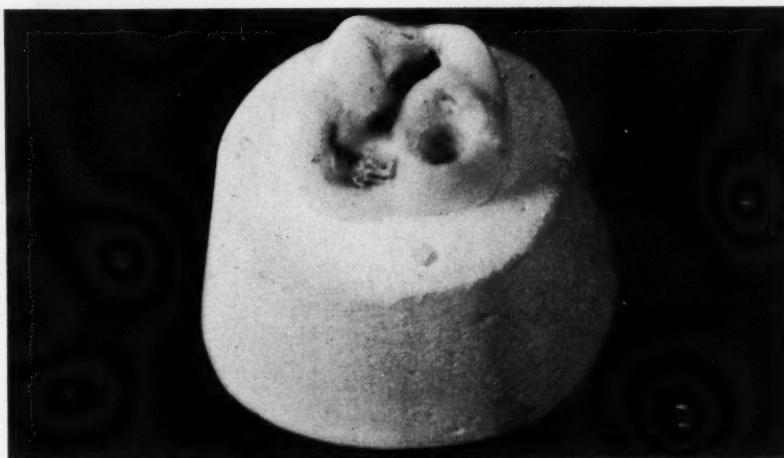


Fig. 16

7. After the investment has set, carefully carve the inlay or inlays to margin, being careful not to over-carve (Fig. 13).

8. When carved, spray the wax patterns which are still on the investment model; soak in water thoroughly, invest, expanding the investment, and cast.

9. The customary finishing is done

before arrival of the patient. The inlays are dressed as much as possible in the mouth and cemented with red copper cement.

10. Bands may be contoured and wax impressions taken with markings; poured in investment, and carved.

Variations may be made in cavity preparations, as conditions indicate,

but the preparations should not require more than fifteen or twenty minutes for completion, if the polish stones are used.

In the technique described here, the wax is never removed from the original investment model; it forms a part of the finished ring investment (Figs. 14, 15 and 16).

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## TO THE EDITOR

### Prevention of Gagging

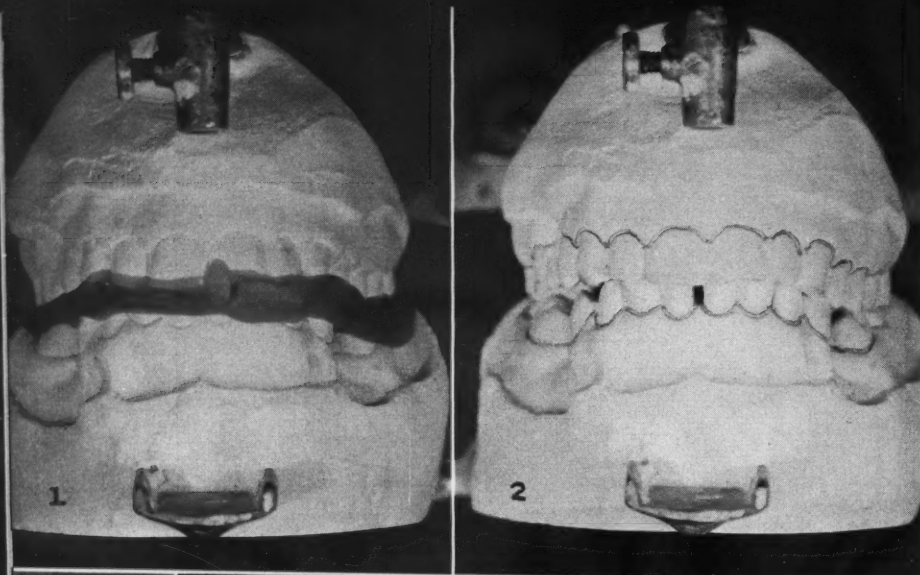
To prevent gagging while taking roentgenograms and impressions for children or adults. I use four 5-grain tablets of potassium bromide crushed and dissolved in approximately 3

ounces of tepid or mouth temperature water. The patient gargles with this solution several times. In severe cases a little may be swallowed to be sure to reach the throat because a patient who gags easily is often not able to gargle well. Occasionally it will be nec-

essary to prepare a second solution.

It is well to wait a minute after the gargle before proceeding to take the roentgenogram or the impression. This solution will also prove helpful to the patient who coughs a great deal.

—ARTHUR S. LITTEN, D.D.S., *New York*



# Complete Procedure for Immediate Dentures

W. H. SNODDY, D.D.S., and  
DORA A. SHERMAN,  
Cheyenne, Wyoming

THE FEASIBILITY of using a mechanical covering, or splint, over the wound of recently extracted teeth has been established, and a denture constructed prior to extraction of the remaining teeth is the logical method of securing such a splint.

By this method, the postoperative discomfort is lessened and the healing facilitated. The end-results produce a denture foundation that is superior to that obtained by any other procedure. The maintenance of normal muscular and tissue position and function is also assured.

The maximum results can be secured only by the extraction of all the remaining teeth at one time and the immediate insertion of the dentures. Extraction of a few teeth at a time should always be followed by the insertion of a partial restoration of some type which will cover the area of the extraction.

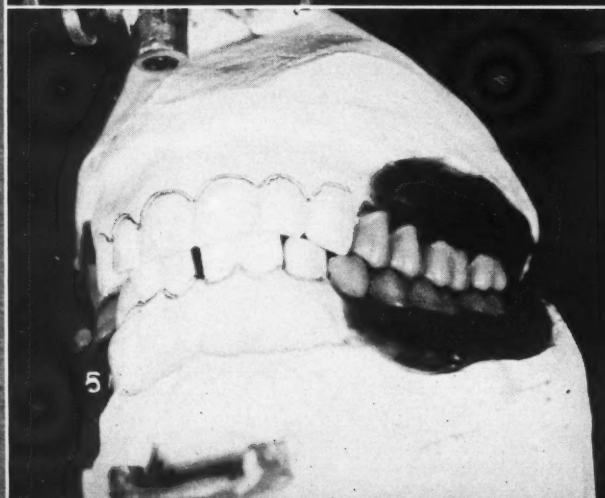
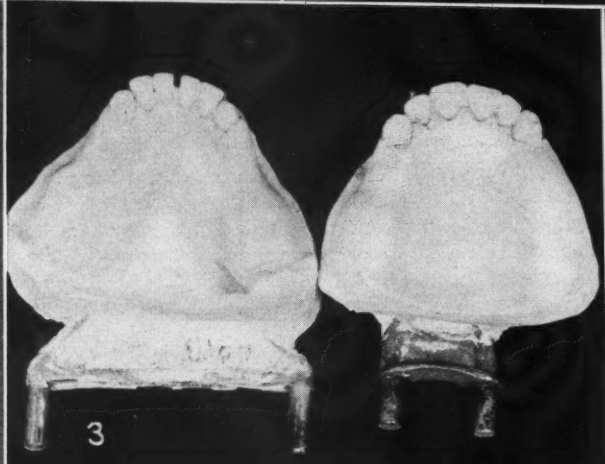


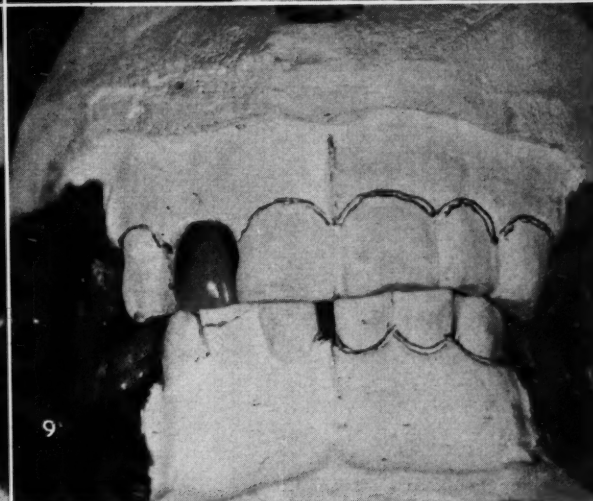
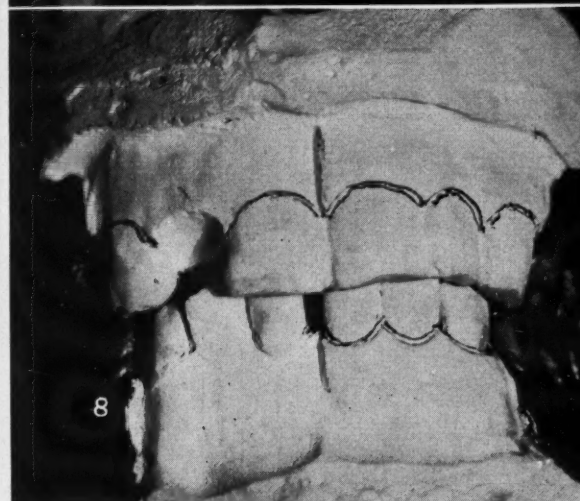
Fig. 1—An impression is taken with one of the elastic or colloidal impression materials. Stone models are made and mounted on the articulator with the aid of a wax bite.

Fig. 2—Gingival margins, buccally and lingually, are outlined with pencil as a guide in cutting off the plaster teeth.

Fig. 3—Posterior teeth cut from models; the ridges scraped to the extent of the anticipated ridge form.

Fig. 4—Baseplate wax is formed on the models.

Fig. 5—Posterior teeth are set up.



Figs. 6 and 7—Labial of models are scraped to the anticipated ridge form as shown on the left in the pictures, the right being left normal for comparison.

Fig. 8—Upper right lateral is cut off and ridge cut to anticipated depth.

Fig. 9—Tooth is ground in and waxed to the base plate.

Our general procedure for surgery is to give by mouth  $1\frac{1}{2}$  grains of pentobarbital sodium at 9 P.M. and again at 7 A.M. The patient reports at 8 A.M. for extractions under procaine anesthesia. Sodium amytal or luminal in 3 grain doses has also proved satisfactory.

Various suture materials have been utilized, and although there are several that have been satisfactory, Deknatel surgical silk, size C, which is moisture-proof and serum-proof, has proved the most satisfactory, as it may be left in for from ten days to two weeks without ill effects, deterioration, or burying itself in the tissues.

Following the extractions and in-

section of the dentures, the patient is put to bed, and a wet towel, covered with an ice collar, is applied to the jaws. This treatment is applied continuously for twenty-four hours, supplemented with the administration of aspirin and phenacetin or a similar acting drug.

In most cases, there will be only slight swelling, although occasionally the swelling may be severe, depending, in most cases, on the amount of trauma during extractions. When the interseptal alveolotomy method<sup>1</sup> of reduction can be used, it will be found that there will be less trauma and

<sup>1</sup>Dean, O. T.: Surgery for the Denture Patient. J. A. D. A. & D. Cos. 23:2124 (November) 1936.

consequently less postoperative disturbance.

Intraseptal alveolotomy has proved satisfactory only in cases needing a minor reduction of the labial plate. When there is a pronounced protrusion of the maxilla, the more radical alveolectomy should be used.

The dentures should be left in the mouth for forty-eight hours; then removed, and the mouth and teeth thoroughly cleaned; replaced in the mouth, and from then on, removed only for cleaning. At the end of a week or two the sutures should be removed; the time depends on the rapidity of healing in the individual case.

One of the most difficult problems



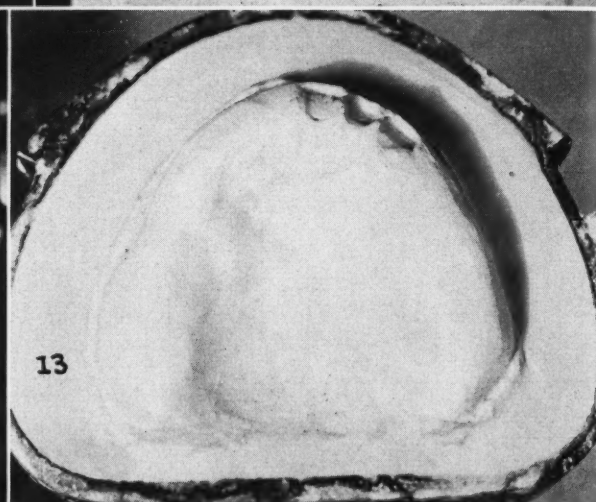
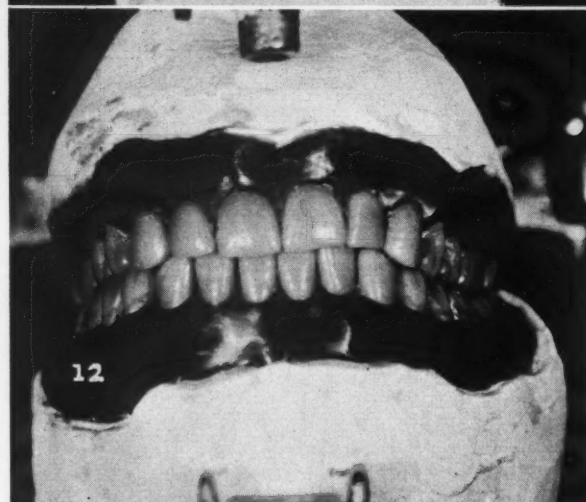
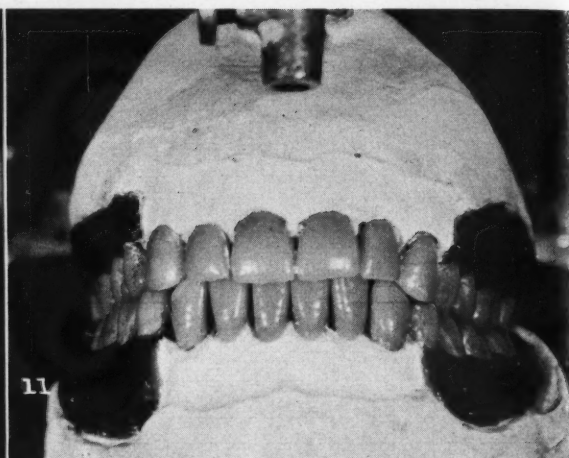
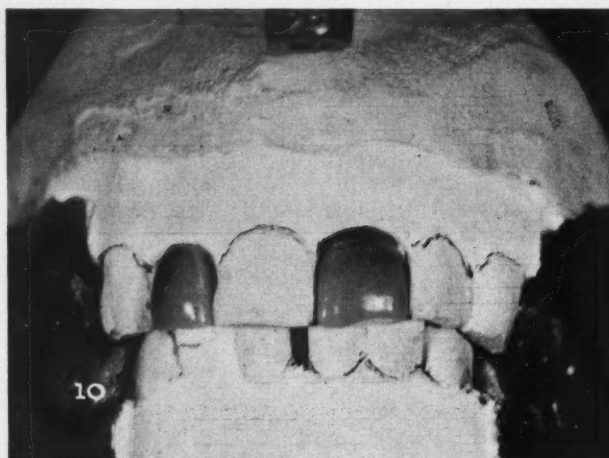


Fig. 10—Upper left central is taken next, and so on, alternately, until all the upper anterior teeth are in place.  
Fig. 11—Lower anterior teeth are set up in a like alternating manner.  
Fig. 12—After all teeth are set up, labial wax is added.

Fig. 13—Case is flaked and, after separation, the irregularities made in the anterior ridge during the set-up are sandpapered off, as shown in the illustration, on the left; the other side shows the roughened condition present before sandpapering.

in immediate denture construction is to secure the proper extension of the buccal and labial flanges on both dentures and the lingual flange of the lower. It is far better to have them under-extended than over-extended.

It must be remembered that a denture thus constructed is truly a "temporary" one, and that reconstruction by means of rebasing or "jumping the bite" (removing all old material and replacing it with new) after an impression has been taken, using the dentures as a tray, will be necessary within a few months. The patient should be encouraged, however, to wear the denture as long as possible, even if it is necessary to resort to the use of one of the adhesive products. Thus as firm a foundation as possible

on which to seat the reconstructed denture will be secured.

Some means of recording the facial outline, such as cardboard roentgenographic or photographic cutouts, should be used in order that on reconstruction of the dentures, the normal facial outline can be maintained or restored.

The success of immediate denture restoration lies to a great extent in the ability of the operator to predetermine the amount of alveolar reduction that is to be made on extraction. This is made easier when the operator does both the surgery and prosthesis. A good mechanic working step-by-step on each case with the dentist is an invaluable aid.

One of the reasons for using the

immediate denture procedure is to be able to furnish the patient with a set of dentures that will resemble as much as possible the natural teeth. Immediate denture construction is also the most satisfactory method of improving the appearance in cases of malformation.

By utilizing the immediate denture technique in protrusion cases, the vertical dimension between the maxilla and mandible can be retained, and while the esthetic appearance of the mouth will be greatly improved, the other facial characteristics will be unchanged.

#### Denture Reconstruction

1. Grind the periphery of the denture until it clears the mucous fold

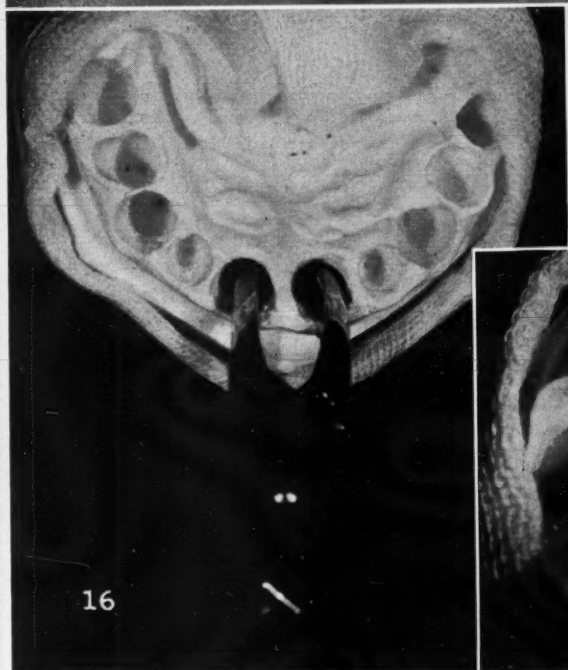
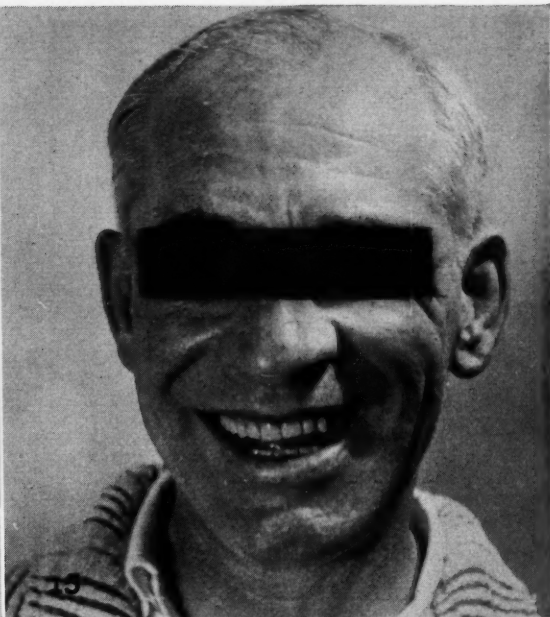


Fig. 14—Finished dentures.

Fig. 15—Dentures inserted immediately after surgery was completed.

Fig. 16—Alveolotomy<sup>1</sup> or the removal of the intraseptal bony

process with rongeurs. Illustrated on a plaster cast.

Fig. 17—Fracturing<sup>1</sup> labial plate with a chisel from the socket surface, after which the labial plate is pressed lingually with the thumbs until the desired reduction has been secured.

and muscles by about one-eighth to one-fourth inch, as shown at A in Fig. 18; B was left for comparison.<sup>2</sup>

2. When the flanges are well in the clear of any muscle pull, a narrow strip of carding wax is attached along the periphery of the two dentures, across the heel of the upper, and sealed to place with a hot spatula. The

wax is warmed over a flame and the dentures seated in the mouth.

3. While the patient bites firmly, the upper lip is pulled downward, and the upper labial surface is muscle-trimmed. The lower lip is likewise pulled upward, and the lower labial surface is muscle-trimmed. The patient then opens the mouth and the cheeks are pressed inward over the occlusal surface of the teeth, and the

buccal of both upper and lower is muscle-trimmed.

4. The lower denture is then held down by placing a thumb on each side on the occlusal surface of the lower teeth while the patient protrudes the tongue, and the distal lingual surface of the lower is muscle-trimmed. While the lower is still being held with the thumbs, the patient raises the tip of the tongue to the roof of the

<sup>1</sup>Snoddy, W. H.: A Simplified Full Denture Technique, DENTAL DIGEST 43:184 (April) 1937.

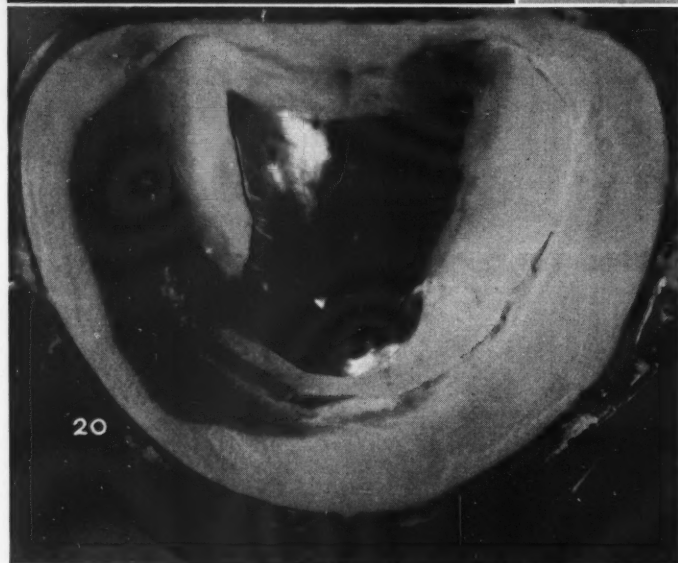
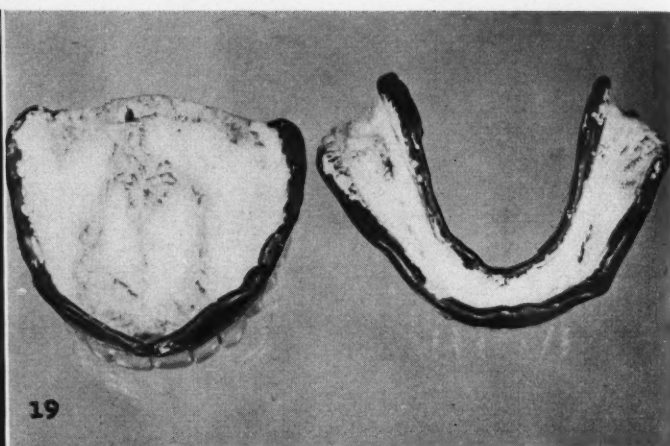
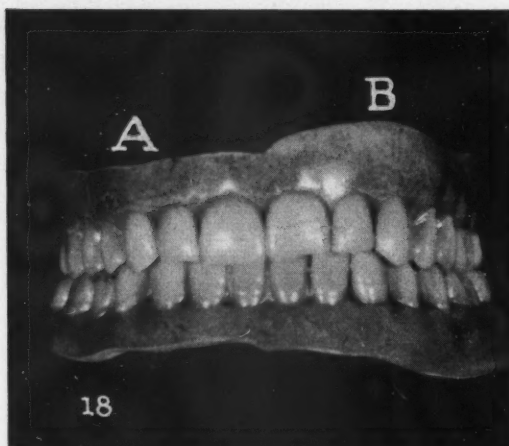


Fig. 18—A, Periphery of denture ground to clear mucous fold and muscles from one-eighth to one-fourth inch; B, shown for comparison.

Fig. 19—Excess plaster cleaned off before returning denture to mouth for final check.

Fig. 20—Metal relief cemented to model.

mouth, muscle-trimming the anterior lingual portion of the lower.

5. The dentures are tried for suction, and, if they fail to hold, the air leak is determined and melted carding wax is painted on the tissue side with a brush near the periphery. The dentures are then returned to the mouth. This procedure is repeated until a seal is formed.

6. The surplus wax is removed with a warm knife, any plumping which may be necessary is accomplished with the carding wax. The final impression is taken with a thin plaster wash. The upper and lower impressions are taken at the same time, with

the mouth closed and the teeth under stress.

7. After removing from the mouth, clean off any excess plaster, place in cold water to harden the wax, and return to the mouth for a final check (Fig. 19).

In the case illustrated here, there was an air bubble over the anterior ridge of the upper. This portion was dried, a small amount of plaster wash added, and the dentures returned to the mouth until the added plaster had set. Any defects in the impression can be corrected in this manner with the plaster wash method better than with any other material.

8. Quick-setting stone model is

now poured and the case flaked. After the plaster sets, the model is boiled until the old denture material is soft enough to be removed from the teeth.

9. A metal relief is formed so as to cover the greater portion of the palate. It is extended from the anterior edge of the postdam forward until it covers the anterior ridge. It is then cemented to the model (Fig. 20).

10. The case is packed with new material; cured; the sharp ridge formed by the edges of the metal relief smoothed down flush with a mounted stone, and the denture finished.

*Veterans' Administration Facility.*



# The Editor's Page

IT HAS BEEN five years since the publication of the Final Report of the Committee on the Costs of Medical Care. That Committee suggested as a solution to the problem of medical distribution that groups of people band together and buy medical care and pay the costs over periods of time. This is the principle of health insurance. To this day there is no direct Simon-pure brand of compulsory health insurance operating in the United States. The last five years, however, have seen significant, slow and insidious changes in the economic picture of medicine, including dentistry.

To be specific, during the last five years the federal government has recognized that persons on relief are entitled to medical care, including the services of dentists. That is why the dental treatment of persons on relief has been subsidized by the federal government. This is a long way from the old concept of the Elizabethan Poor Laws which provides for the administration of dental or medical care by the dentist or physician on a charitable basis; or, if any payment was made, it was done locally, and not centrally; by the county, and not from federal funds.

During the last five years, we have seen the passage of the Social Security Law. Historically, social security is intended to protect persons from unemployment and the terrors of old age and of ill health. The present legislation has already provided for old age assistance and unemployment compensation. With the Act so flexible, at any time there can be supplemented a system of supplying medical and dental care. Even in its present form the Social Security Law provides for the expenditure of 16 million dollars a year, chiefly for child and maternal health. Under the terms of the Act there are provisions for the establishment of dental departments in the state boards of health under the supervision of the United States Public Health Service. Many states have already rushed to organize such dental departments.

The United States Public Health Service in a cooperative project with the American Dental Association made a nationwide study of the incidence of dental disease among children. The American Dental Association has made no recommendation as to how all children can receive treatment. It is not fantastic to think that the United States Public Health Service,

through the dental departments established in the state boards of health and paid for from Social Security Funds may suggest a method of treatment.

These last five years have seen the rapid growth of group hospitalization to which thousands of American families now subscribe. This is frankly a form of insurance. On a previous occasion we pointed out that the transition from group hospitalization to health insurance was a logical and easy one from the point of view of the public. People may ask, "If we can buy hospital care on a budget basis on a pre-arranged plan, why can't we buy the services of physicians and dentists in the same way?"

One of the government agencies, the Federal Home Loan Bank Board,<sup>1</sup> is sponsoring in Washington and has now operating a system of prepayment for health services in which private physicians contracted with the employees of this agency to render the services. This, too, is the insurance principle.

All the change in the system of medical care has not been instigated by the social betterment groups or by legislators. The largest group of recipients of medical care subsidized in any form would be the working people in the country. The American Federation of Labor at its Tampa convention went on record as favoring health insurance. The Committee on Industrial Organization, which is admittedly more to the left than the American Federation of Labor in its ideology, would naturally be expected to endorse health insurance or something even more far-reaching.

On November seventh a group of 430 influential physicians, including a Nobel Prize winner, famous medical scientists, and deans, publically recommended the federal subsidizing of medical care.

This statement of developments in the last five years is intended to suggest that the distributive system of medical care is constantly undergoing revision, with definite gravitation toward the center and toward federalization. It is not a question of whether we like the changes or not. It is for us to be realistic enough to recognize that they are taking place. Can we preserve the values that we hold high while new and modified methods of distribution are instituted?

<sup>1</sup>Group Health Association, Inc.: Organization Section, Journal of the American Medical Association, 109:39B (October 2) 1937.

# Biopsy: Part of the Dentist's Armamentarium in Cancer Control\*

HAROLD A. SOLOMON, D. D. S. and EUGENE M. BURKE, B. S., Buffalo, New York

IN 1929 EWING<sup>1</sup> stated that "the responsibility for preventing and detecting intra-oral cancer falls chiefly on the dental profession." That this challenge to American dentistry did not go unaccepted is shown by an editorial which appeared five years later in the *Bulletin of the American Society for the Control of Cancer*.<sup>2</sup> The editorial read in part:

One of the most consistent and encouraging developments in cancer education has been, and is, the growing interest and activity of the dental profession in this field. This attitude of cooperation has been voluntary and spontaneous. It has been the natural concomitant of the aroused sense of scientific achievement which has rightfully been a characteristic of modern dentistry . . . He [the dentist] has begun to realize his opportunity for a very real public health service and he is grasping it more fully and with increasing enthusiasm as he feels the soundness of his position and the value of his contribution to cancer control.

Not every dentist has an opportunity to be associated with a "tumor clinic" and become proficient in clinical diagnosis, but all dentists have the decided advantage of being able

to perform biopsies on all lesions relative to which a suggestion of malignancy exists. Thus members of the dental profession can enlist the aid of the pathologist in diagnosis of early cases of oral cancer.

It is universally admitted that early recognition of cancer is probably the most important factor in combating the disease. Of paramount importance in diagnosis is histopathologic examination of suggestive lesions by use of the microscope.

The purpose of this report is briefly to describe the simplicity and ease of removing a specimen for histopathologic laboratory diagnosis and the subsequent steps incident to its examination.

After anesthesia is obtained by infiltration with procaine hydrochloride, a rongeur or scalpel can be used to remove a piece of tissue from the lesion. In the case of a large lesion, it is best to take the section from the periphery of the lesion rather than from the center, for the reason that the center of many lesions are necrotic and do not show a true picture of the exact nature of the lesion. In small lesions, it is usually well to remove the entire lesion at this time. (See accompanying illustrations.) A

folded gauze compress applied with pressure usually arrests hemorrhage from gum lesions; whereas sections taken from the lip, cheek or tongue usually require a suture or two.

The section should immediately be placed in a wide-mouthed bottle containing a "fixing" solution. If the section is to be sent to a laboratory where the "frozen section technique" is used, a 10 per cent solution of formaldehyde should be placed in the bottle as a fixative. It is best to consult one's local pathologist concerning the proper fixative to be used. This suggestion is made because experience shows that dentists unfamiliar with biopsy technique have a tendency to place specimens in alcohol because it is always close at hand in the dental office. In the "frozen section technique" carbon dioxide is used to freeze the section for cutting by the microtome; alcohol prevents proper freezing and cutting of the section.

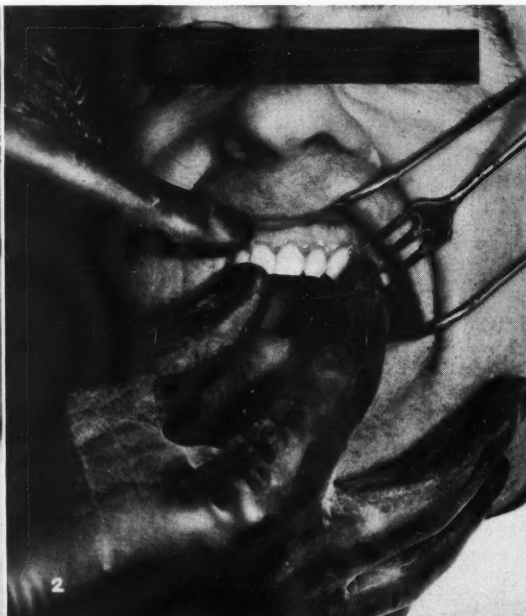
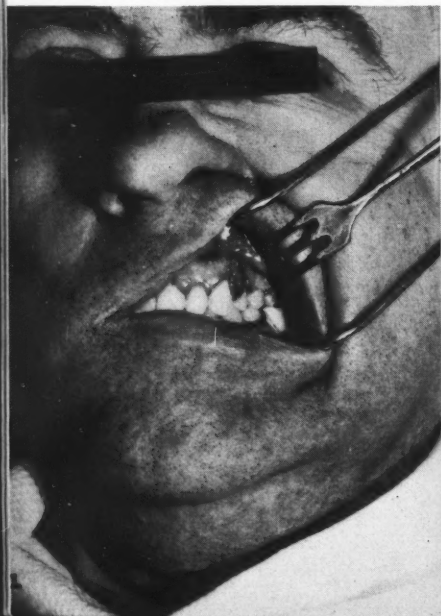
438 Delaware Avenue.

\*From the New York State Institute for the Study of Malignant Diseases, Buffalo, New York, (Burton T. Simpson, M.D., Director)  
<sup>1</sup>Ewing, James: Cancer of the Mouth, Bull. Chicago Dent. Soc., June 21, 1929.  
<sup>2</sup>Editorial, The Dentist and Cancer, Bull. Soc. Control Cancer, 16:9 (July) 1934.

Fig. 1—Gross appearance of lesion.

Fig. 2—Examination of lesion.

Fig. 3—Palpation of regional lymph nodes. (An important part of every oral examination.)



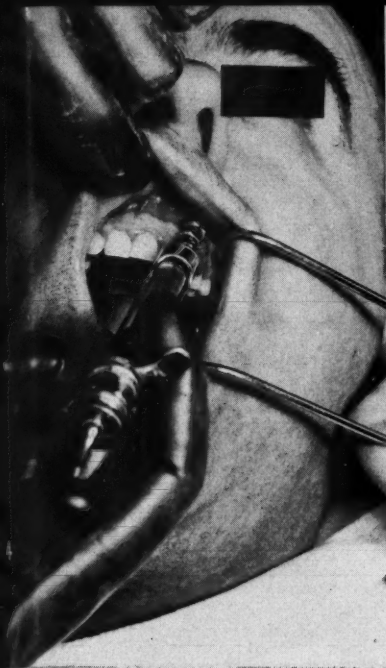


Fig. 4—Infiltration of local anesthetic.

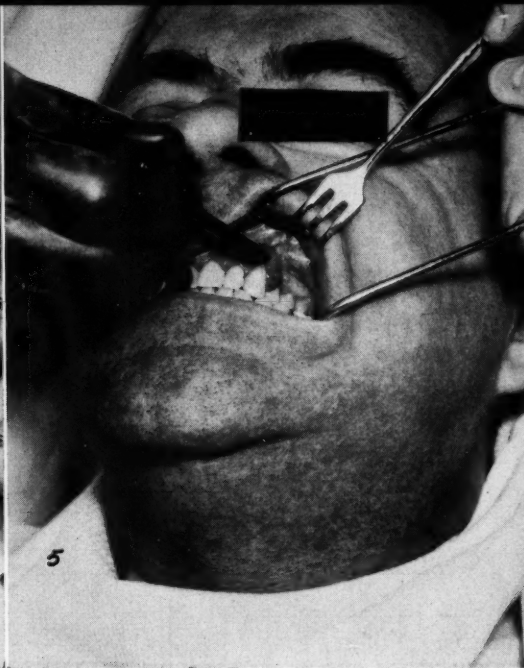


Fig. 5—Removal of lesion with scalpel.

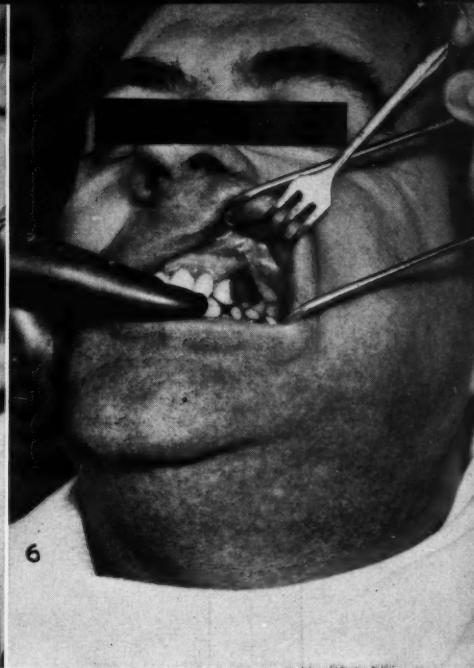


Fig. 6—Appearance of area after removal of lesion.

Fig. 7—Placing specimen in fixing solution.

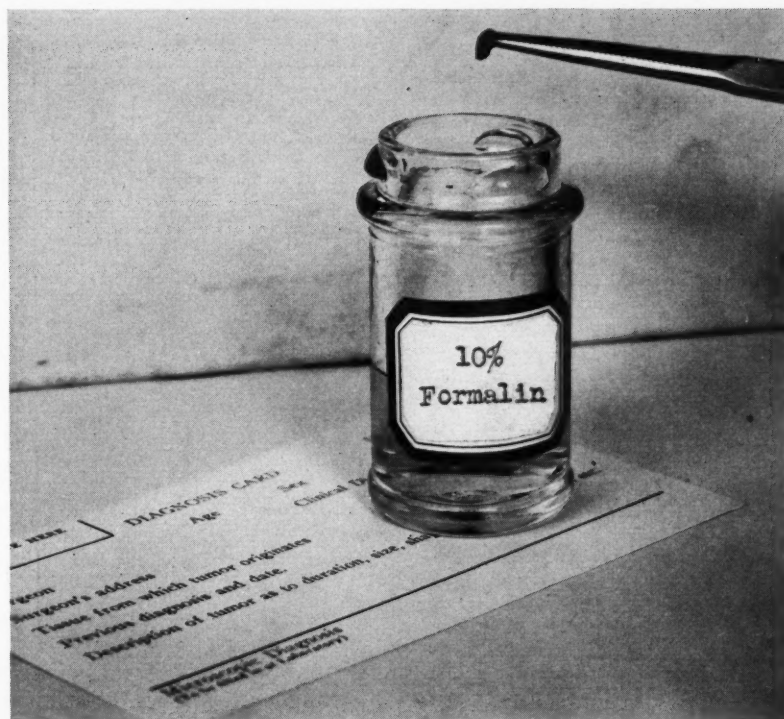


Fig.7



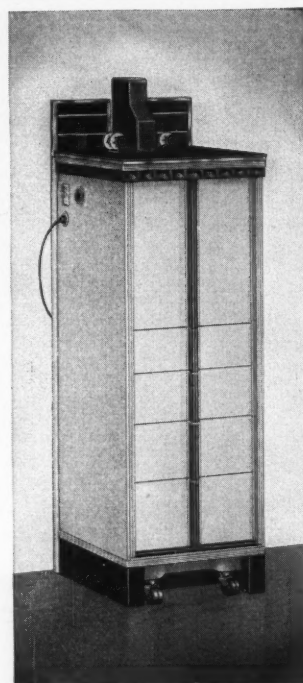
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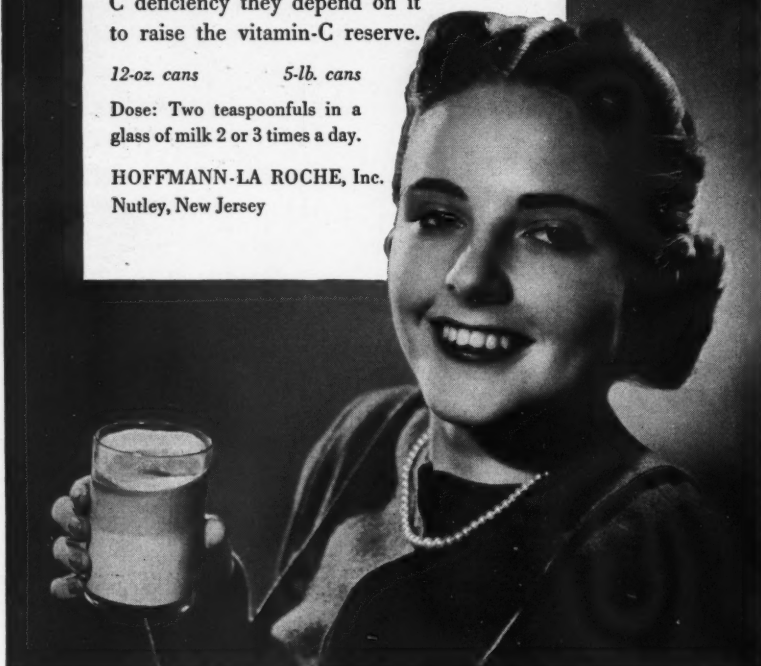
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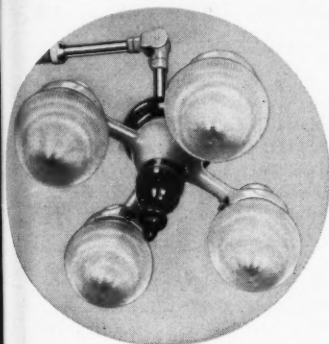
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<sup>1</sup>The first and second series of charts in the feature, THE EDUCATION OF THE DENTAL PATIENT are available in bound form. A third edition comprising all the published charts in the three series will be issued if the demand warrants. (See Extension Services, page 608, this issue.)



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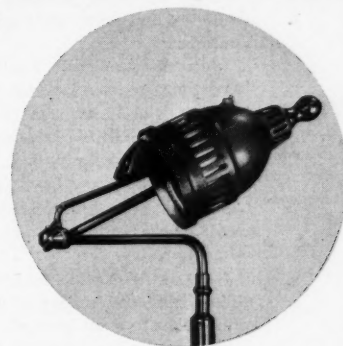
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## A REMINDER . . .

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**THE DENTAL DIGEST, 1005 Liberty Ave., Pittsburgh, Pa.**

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## Notes on the Cuff

Oct. 26—A group of dentists, half of whom are educators and half practitioners, argue about dental education. All agree that dental colleges, like animals, can suffer sterility from inbreeding. When a dental college shows a faculty top-heavy with its own graduates, with the avenues for new ideas from without closed, with a "reigning" rather than a coordinating dean—then the signs of decline are upon it.

Oct. 29—Fall planting. Score: twenty-four Scotch and Austrian pines on the hillsides. Stuart Chase: "The Tyranny of Words." A strong plea for specific, definite, direct writing and speaking. An editor knows how circuitous the human mind can be in expressing a thought. Examples from dental writings:

"Only too frequently does the pre-x-ray reveal lurking conditions which like falcons are ready to pounce upon the operator, in the course of operation."

"The tissues resent the visitations of a foreign body."

"Suggestion, either of the autogenous type or the transmitted may be ruled out, unless the factor of telepathy be admitted, by the simple expedient of using plain water instead of the solution, and asking the patient if it hurts. The answer is generally convincing."

Nov. 1—Letter received from Howard Raper in Albuquerque, New Mexico. Mentions many clippings sent to him regarding the deaths (73 up to November 11) from elixir of sulfanilamide. Raper's excellent article in this magazine described use of valuable drug as properly used in pure form. Toxic agent in elixir is diethy-  
(Continued on page 598)

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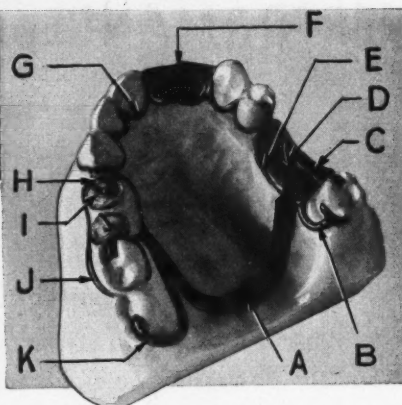
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lene glycol (similar to radiator anti-freeze).

Nov. 3—New institution is created to aid citizens in detection of propaganda: The Institute for Propaganda Analysis, Inc. Officers are well known college professors. The seven deadly propaganda devices are: name calling; glittering generalities; transfer; testimonial; plain folks; card stacking; band wagon. Propaganda defined: "Expression of opinion or action by individuals or groups with reference to predetermined ends."

Nov. 4—A school teacher with imagination writes from Omaha: Fifty-three children in her room have all had complete dental correction. She has read about a standardized dental examination chart, about which she told her pupils. Each pupil wishes to take one to his own dentist to have his mouth charted. Inquisitive children like to know what makes the wheels go 'round. Apparently they can be taught to be inquisitive about the condition of their mouths.

Nov. 5—Driving to Columbus, Ohio, I heard James Roosevelt, at 30, with a voice like his father's, make a persuasive beginning over the radio. Will he be a John Quincy Adams who followed in his father's fame to the Presidency; a Robert Todd Lincoln who reached a cabinet post and an ambassadorship; or will he suffer the political frustration of a distant cousin who also had large ambitions?

Nov. 6—Hurrying toward the football stadium in Columbus with Earl Jones, president of the Ohio State Dental Society and his fine family, we were extricated from a traffic jam by a policeman with a wide smile: "Right this way, Doc." Once again, the value of knowing the right people was proved.

Epicureans rate the Maramor (Mary Love, owner) in Columbus as one of the best restaurants in the country, so the Hebbles, Pryors, and Snyders took us there to dinner.

Nov. 7—Walter Pryor presided efficiently before the component officers conference. A few minutes before 8 o'clock E. S. T., many chairs were hastily vacated. Thus the devotees of Mr. Charley McCarthy are enlisted.

Nov. 8—Jim Gentilly is better at magic than in a walkathon. Enjoyed the swift walk with him before speaking at the general session of the Ohio State Dental Society. On program with Clarence Simpson, Jack LaDue,

(Continued on page 600)





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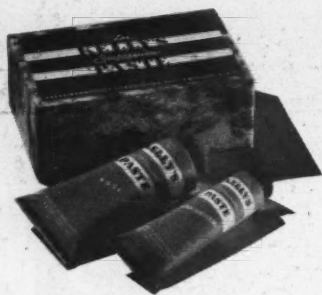
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# KELLY'S PASTE

and Gerald Timmons that morning.

**Afternoon**—Rededication of Callahan Memorial in infirmary of Ohio State University College of Dentistry where Memorial has been moved from grounds of Cincinnati General Hospital. On same campus: Memorial to W. D. Miller, distinguished dentist and Ohioan.

**Evening**—Harvey Burkhart received Callahan Award for long and productive services to dentistry. President Camalier of A. D. A. spoke of his dental program for American youth; of the 13 million dollars for health under the Social Security program with only \$166,000 for dentistry. President J. H. J. Upham of A. M. A. spoke well of significant milestones in science of dentistry, but not so convincingly of present and future attitudes of his powerful organization with respect to economics of medical care. Twenty-four hours before, on Sunday, November 7, 430 influential physicians fired their broadside at A. M. A.; they plumped without reservation for federal subsidy for medical care. No mention of this in President Upham's address.

**Nov. 11**—Hard holiday at the dental chair after return from holiday in Ohio.

**Nov. 12**—Cheerful note from Boyd Gardner who is back on duty at Mayo Clinic after long illness.

**Nov. 16**—Elevation in temperature as a result of infected tooth puts the President to bed. Vice-President Garner makes news as a dental patient. Senator Norris is pictured by candid cameramen with bandaged jaw from a dental operation. "And the moral of that is," quoth the Duchess: Bacteria respect no one. No one is invulnerable to dental disease.

**Nov. 17**—On the program with Norman Denner of Cleveland before the Milwaukee County Dental Society. Denner tells a sound story of dental economics. Blessings on President Justin of that society who starts his meeting punctually and without long committee reports or dental society parliamentary banalities. Compelled to drink root beer in Milwaukee while waiting with parched throat for the train.

**Nov. 20**—Howard Vincent O'Brien, columnist, at the University Club of Evanston, describes those who fear the press and shrink from interviews. Quotes Spanish proverb: "Men, like fish, are caught through the mouth."

—E. J. R.

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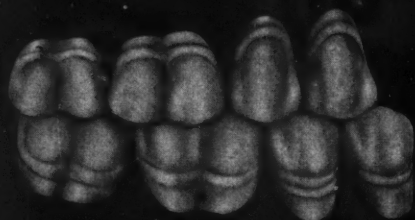
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